IN THE CLAIMS

Claims 44, 46, 49 and 50 have been amended herein. All of the pending claims are presented below. This listing of claims will replace all prior versions and listings of claims in the application. Please enter these claims as amended.

Listing of Claims:

1. (Withdrawn) An isolated complex between a presenilin and a type I transmembrane protein, said isolated complex comprising:
the first transmembrane domain of presenilin;
the last eight carboxyterminal amino acids of presenilin; and
the transmembrane domain of said type I transmembrane protein.

2. (Withdrawn) The isolated complex of claim 1, wherein said presenilin comprises presenilin 1 or presenilin 2.

3. (Withdrawn) The isolated complex of claim 1, wherein said type I transmembrane domain protein is selected from the group consisting of telencephalin (TLN), amyloid precursor protein (APP), Notch E-cadherin, and Nicastrin.

4. (Withdrawn) An isolated binding domain of an isolated complex between a presenilin and a type I transmembrane protein, said isolated binding domain consisting essentially of the first transmembrane domain of presenilin.

5. (Withdrawn) The isolated binding domain of claim 4, wherein said first transmembrane domain of presenilin comprises SEQ ID NO:1 or SEQ ID NO:2.

6. (Withdrawn) The isolated binding domain of claim 4, wherein said presenilin is presenilin 1 or presenilin 2.

7. (Withdrawn) The isolated binding domain of claim 4, wherein said type I transmembrane domain protein is selected from the group consisting of TLN, APP, Notch E-cadherin, and Nicastrin.

8. (Withdrawn) An isolated binding domain of an isolated complex between a presenilin and a type I transmembrane protein, said isolated binding domain consisting essentially of the last eight carboxyterminal amino acids of presenilin.

9. (Withdrawn) The isolated binding domain of claim 8, wherein said last eight carboxyterminal amino acids of presenilin are set forth in SEQ ID NO:3 or SEQ ID NO:4.

10. (Withdrawn) The isolated binding domain of claim 8, wherein said presenilin is presenilin 1 or presenilin 2.

11. (Withdrawn) The isolated binding domain of claim 8, wherein said type I transmembrane domain protein is selected from the group consisting of TLN, APP, Notch E-cadherin, and Nicastrin.

12. (Withdrawn) An isolated binding domain of an isolated complex between a presenilin and a type I transmembrane protein, said isolated binding domain consisting essentially of a sequence of amyloid precursor protein having presenilin binding activity.

13. (Withdrawn) The isolated binding domain of claim 12, wherein said sequence of amyloid precursor protein is set forth in SEQ ID NO:5.

14. (Withdrawn) The isolated binding domain of claim 12, wherein said presenilin is presenilin 1 or presenilin 2.

15. (Withdrawn) The isolated binding domain of claim 12, wherein said type I transmembrane domain protein is selected from the group consisting of TLN, APP, Notch E-cadherin, and Nicastrin.

16. (Withdrawn) An isolated binding domain of an isolated complex between a presenilin and a type I transmembrane protein, said isolated binding domain consisting essentially of a sequence of telencephalin having presenilin binding activity.

17. (Withdrawn) The isolated binding domain of claim 16, wherein said sequence of telencephalin is set forth by SEQ ID NO:6.

18. (Withdrawn) The isolated binding domain of claim 16, wherein said presenilin is presenilin 1 or presenilin 2.

19. (Withdrawn) The isolated binding domain of claim 16, wherein said type I transmembrane domain protein is selected from the group consisting of TLN, APP, Notch E-cadherin, and Nicastrin.

20. (Withdrawn) A method of identifying at least one compound capable of modulating the interaction between a complex of a presenilin and a type I membrane protein, said method comprising:

treating said complex or binding domains of said complex with at least one compound;

monitoring the interaction of the presenilin and said type I transmembrane protein; and

determining whether said at least one compound modulates the interaction between presenilin and said type I transmembrane protein thus identifying a compound capable of modulating said interaction between a complex of presenilin and a type I transmembrane protein.

21. (Withdrawn) The method of claim 20, wherein said monitoring comprises measuring the effect of said at least one compound on the interaction between presenilin and said type I transmembrane protein.

22. (Withdrawn) The method of claim 20, wherein said presenilin comprises presenilin 1 or presenilin 2.

23. (Withdrawn) The method of claim 20, wherein said type I transmembrane domain protein is selected from the group consisting of TLN, APP, Notch E-cadherin, and Nicastrin.

24. (Withdrawn) The method of claim 20, wherein said binding domain of said presenilin comprises at least one of the first transmembrane domain and the last eight carboxyterminal amino acids of a preseniln.

25. (Withdrawn) The method of claim 20, wherein said binding domain of said type I transmembrane protein comprises at least one of a sequence of APP set forth in SEQ ID NO:5 and a sequence of TLN set forth in SEQ ID NO:6.

26. (Withdrawn) The method of claim 20, further comprising introducing said at least one compound to presenilin and said type I transmembrane protein.

27. (Withdrawn) The method of claim 26, wherein said introducing comprises administering said at least one compound to a subject.

28. (Withdrawn) The method of claim 20, wherein said introducing modulates the turnover of said type I transmembrane protein.

29. (Withdrawn) The method of claim 20, wherein said introducing modulates presenilin mediated processing of said type I transmembrane protein.

30. (Withdrawn) A compound capable of modulating the interaction between a complex of a presenilin and a type I membrane protein, said compound identified by a process comprising:

treating said complex or binding domains of said complex with at least one compound;

monitoring the interaction of the presenilin and said type I transmembrane protein; and

determining whether said at least one compound modulates the interaction between presenilin and said type I transmembrane protein thus identifying a compound capable of modulating said interaction between a complex of presenilin and a type I transmembrane protein;

wherein said compound is selected from the group consisting of SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:6, SEQ ID NO:7, and SEQ ID NO:10.

31. (Cancelled)

32. (Withdrawn) A method for producing a pharmaceutical composition, said method comprising:

identifying a compound capable of modulating the interaction between a presenilin and a type I transmembrane protein, said identifying comprising:

treating said preseniln and type I transmembrane protein with at least one compound;

discovering at least one first compound of said at least one compound capable of modulating the interaction between said presenilin and type I transmembrane; and

providing said at least one first compound with a pharmaceutically acceptable carrier;

wherein said compound selected from the group consisting of SEQ ID NO: 7 and SEQ ID NO: 12.

33. (Withdrawn) A receptor in an *ex vivo* system, said receptor comprising the first transmembrane domain of presenilin and the last eight carboxyterminal amino acids of presenilin and having binding activity for a type I transmembrane protein.

34. (Withdrawn) The receptor of claim 33, wherein said first transmembrane domain comprises SEQ ID NO:1 or SEQ ID NO:2.

35. (Withdrawn) The receptor of claim 33, wherein the last eight carboxyterminal amino acids of presenilin comprises SEQ ID NO:3 or SEQ ID NO:4.

36. (Withdrawn) The receptor of claim 33, wherein said type I transmembrane protein is selected from the group consisting of TLN, APP, Notch E-cadherin, and Nicastrin.

37. (Withdrawn) A receptor in an *ex vivo* system, said receptor comprising the transmembrane domain of a type I transmembrane protein and having presenilin binding activity.

38. (Withdrawn) The receptor of claim 37, wherein said presenilin is presenilin 1 or presenilin 2.

39. (Withdrawn) The receptor of claim 37, wherein said receptor comprises a sequence of amyloid precursor protein.

40. (Withdrawn) The receptor of claim 39, wherein said sequence is SEQ ID NO: 5.

41. (Withdrawn) The receptor of claim 37, wherein said receptor comprises a sequence of telencephalin.

42. (Withdrawn) The receptor of claim 41, wherein said sequence comprises SEQ ID NO: 6.

43. (Withdrawn) The receptor of claim 37, wherein said receptor comprises SEQ ID NO: 7 or SEQ ID NO: 10.

44. (Currently Amended) A compound capable of modulating the interaction between a complex of a presenilin and a type I membrane protein, said compound ~~comprising~~ consisting of:

a ~~compound~~ peptide selected from the group consisting of SEQ ID NO: 7 and SEQ ID NO: 12.

45. (Cancelled)

46. (Currently Amended) A compound capable of modulating the interaction between a complex of a presenilin and a type I membrane protein, said compound consisting ~~essentially~~ of:

a ~~compound~~ peptide selected from the group consisting of SEQ ID NO: 5, SEQ ID NO: 8, and SEQ ID NO: 13.

47. (Cancelled)

48. (Cancelled)

49. (Currently Amended) A pharmaceutical composition comprising:

a pharmaceutically acceptable carrier; and

a compound, the compound consisting of a peptide selected from the group consisting of SEQ ID NO: 7 and SEQ ID NO: 12.

50. (Currently Amended) A pharmaceutical composition comprising:

a pharmaceutically acceptable carrier; and

a compound, said compound consisting ~~essentially~~ of a ~~compound~~ peptide selected from the group consisting of SEQ ID NO: 5, SEQ ID NO: 8, and SEQ ID NO: 13.

51. (Withdrawn) A method of modulating the interaction between a complexes of a presenilin and a type I membrane protein, said method comprising:

administering a means for modulating the interaction between a complexes of a presenilin and a type I membrane protein; and

modulating the interaction between a complexes of a presenilin and a type I membrane protein.

52. (Withdrawn) The method of claim 51, wherein said means comprises a compound selected from the group consisting of SEQ ID NO: 7, SEQ ID NO: 12, SEQ ID NO: 16, and SEQ ID NO: 17.

53. (Withdrawn) The method of claim 51, wherein said means comprises a compound, said compound consisting essentially of a compound selected from the group consisting of SEQ ID NO: 5, SEQ ID NO: 8, and SEQ ID NO: 13.